AMENDMENTS TO THE CLAIMS

Kindly amend the claims as follows:

1. (Previously presented) A method of using a device that uses a relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a low permittivity and allows optical transmission, and the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state and undergoes a transition to the first state if heated to or above the Curie temperature in the second state, the method comprising:

applying an electric field above a threshold to the relaxor ferroelectric solid solution single crystal in the device to cause the relaxor ferroelectric solid solution single crystal to make a transition from the first state to the second state; and

heating the relaxor ferroelectric solid solution single crystal in the device to or above the Curie temperature to cause the relaxor ferroelectric solid solution single crystal to make a transition from the second state to the first state.

2. (Previously presented) The method according to claim 1, wherein the relative permittivity of the relaxor ferroelectric solid solution single crystal in the device is 9,000 or above in the first state, and 7,000 or below in the second state.

3. (Previously presented) The method according to claim 1, wherein the relative permittivity of the relaxor ferroelectric solid solution single crystal in the device is approximately halved when the relaxor ferroelectric solid solution single crystal makes a transition from the first state to the second state.

4. (Currently amended) The method according to claim 1, wherein the relaxor ferroelectric solid solution single crystal in the device is a pseudocubic ~~crystalline/rhombohedral crystalline~~ rhombohedral phase (001) plate.

5. (Previously presented) The method according to claim 1, wherein the device is an optical device which uses at least optical transmission characteristics of the relaxor ferroelectric solid solution single crystal.

6. (Previously presented) The method according to claim 5, wherein the optical device is an optical memory or light valve.

7. (Previously presented) The method according to claim 5, wherein the device uses not only the optical transmission characteristics, but also changes in dielectric characteristics of the relaxor ferroelectric solid solution single crystal taking place with changes in the optical transmission characteristics.

8. (Previously presented) A device that uses a relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a low permittivity and allows optical transmission, and the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state and undergoes a transition to the first state if heated to or above the Curie temperature in the second state, the device comprising:

a unit that applies an electric field above a threshold to the relaxor ferroelectric solid solution single crystal in the device to cause the relaxor ferroelectric solid solution single crystal to make a transition from the first state to the second state; and

a unit that heats the relaxor ferroelectric solid solution single crystal in the device to or above the Curie temperature to cause the relaxor ferroelectric solid solution single crystal to make a transition from the second state to the first state.

9. (Previously presented) The device according to claim 8, wherein the relative permittivity of the relaxor ferroelectric solid solution single crystal in the device is 9,000 or above in the first state, and 7,000 or below in the second state..

10. (Previously presented) The device according to claim 8, wherein the relative permittivity of the relaxor ferroelectric solid solution single crystal in the device is approximately halved when the relaxor ferroelectric solid solution single crystal makes a transition from the first state to the second state.

11. (Currently amended) The device according to claim 8, wherein the relaxor ferroelectric solid solution single crystal in the device is a pseudocubic ~~crystalline/rhombohedral crystalline~~ rhombohedral phase (001) plate.

12. (Previously presented) The device according to claim 8, wherein the device is an optical device which uses at least optical transmission characteristics of the relaxor ferroelectric solid solution single crystal.

13. (Previously presented) The device according to claim 12, wherein the optical device is an optical memory or light valve.

14. (Previously presented) The device according to claim 12, wherein the device uses not only the optical transmission characteristics, but also changes in dielectric characteristics of the relaxor ferroelectric solid solution single crystal taking place with changes in the optical transmission characteristics.

15. (Previously presented) A light valve that uses a relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a low permittivity and allows optical transmission, and the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state and undergoes a transition to the first state if heated to or above the Curie temperature in the second state, the light valve comprising:

a unit that applies an electric field above a threshold to the relaxor ferroelectric solid solution single crystal in the light valve to cause the relaxor ferroelectric solid solution single crystal to make a transition from the first state to the second state; and

a unit that heats the relaxor ferroelectric solid solution single crystal in the light valve to or above the Curie temperature to cause the relaxor ferroelectric solid solution single crystal to make a transition from the second state to the first state.

16. (Previously presented) The light valve according to claim 15, wherein the relaxor ferroelectric solid solution single crystal completely blocks optical transmission in the first state.

17. (Previously presented) A capacitor that uses a relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a low permittivity and allows optical transmission, and the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state and undergoes a transition to the first state if heated to or above the Curie temperature in the second state, the capacitor comprising:

a unit that applies an electric field above a threshold to the relaxor ferroelectric solid solution single crystal in the capacitor to cause the relaxor ferroelectric solid solution single crystal to make a transition from the first state to the second state; and

a unit that heats the relaxor ferroelectric solid solution single crystal in the capacitor to or above the Curie temperature to cause the relaxor ferroelectric solid solution single crystal to make a transition from the second state to the first state.

18. (Previously presented) A piezoelectric device that uses a relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a low permittivity and allows optical transmission, and the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state and undergoes a transition to the first state if heated to or above the Curie temperature in the second state, the piezoelectric device comprising:

a unit that applies an electric field above a threshold to the relaxor ferroelectric solid solution single crystal in the piezoelectric device to cause the relaxor ferroelectric solid solution single crystal to make a transition from the first state to the second state; and

a unit that heats the relaxor ferroelectric solid solution single crystal in the piezoelectric device to or above the Curie temperature to cause the relaxor ferroelectric solid solution single crystal to make a transition from the second state to the first state.

19. (Previously presented) A relaxor ferroelectric solid solution single crystal, wherein the relaxor ferroelectric solid solution single crystal is capable of making transitions, at temperatures below the Curie temperature, between a first state which has a high permittivity and blocks optical transmission and a second state which has a

low permittivity and allows optical transmission, wherein the relaxor ferroelectric solid solution single crystal undergoes a transition to the second state if an electric field above a threshold is applied in the first state.

20. (Previously presented) The relaxor ferroelectric solid solution single crystal according to claim 19, wherein the relaxor ferroelectric solid solution single crystal undergoes a transition to the first state if heated to or above the Curie temperature in the second state.

21. (Previously presented) The relaxor ferroelectric solid solution single crystal according to claim 19, wherein the relative permittivity of the relaxor ferroelectric solid solution single crystal is 9,000 or above in the first state, and 7,000 or below in the second state.

22. (Previously presented) The relaxor ferroelectric solid solution single crystal according to claim 19, wherein the relative permittivity is approximately halved when the relaxor ferroelectric solid solution single crystal makes a transition from the first state to the second state.